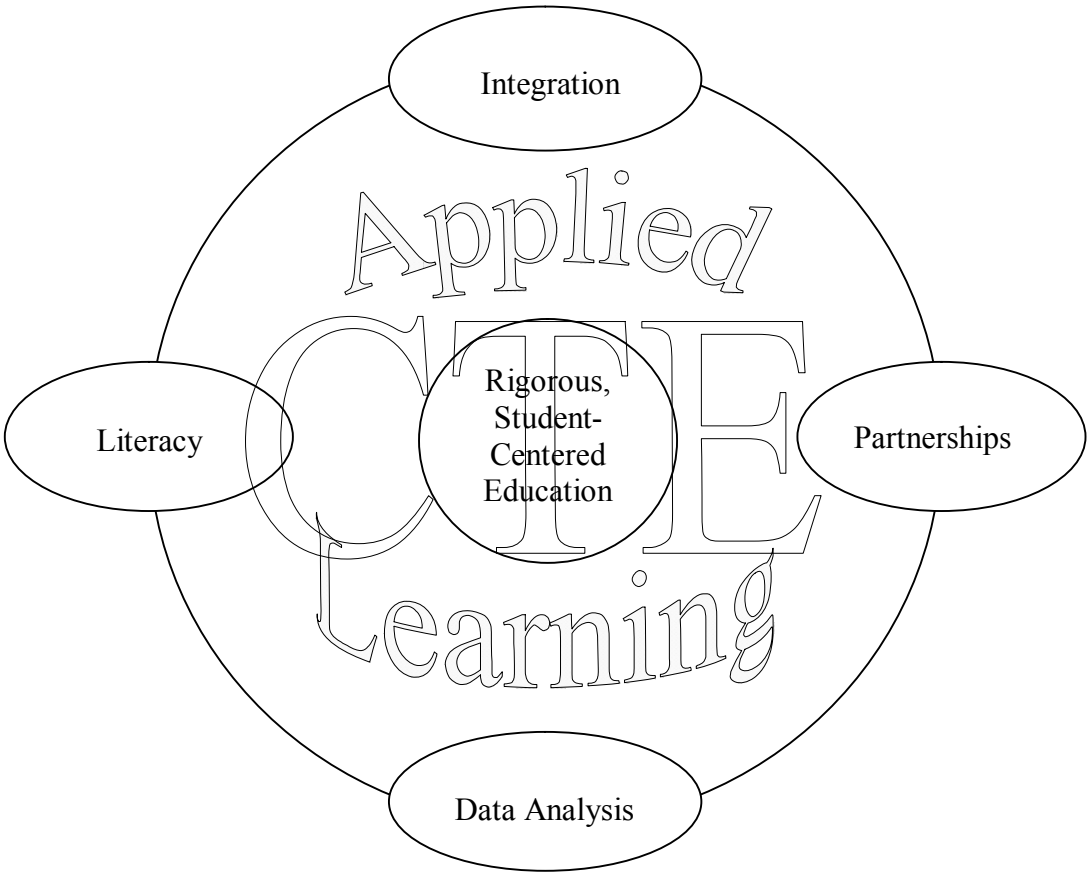
A Strategic Plan for the Future of Career and Technical Education in Maine

Executive Summary

April 2005



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Career and Technical Education Strategic Vision

Introduction

Overview:

At no time in our recent history has there existed such widespread agreement that secondary education must adapt—and rapidly—to the increasing expectations for student performance. Indeed, as the educational implications of the 21st Century economy become clearer, focus has sharpened on preparing all students for post-secondary education, which the vast majority of emerging careers will require. Demographic trends, which highlight the reality of burgeoning numbers of retirees and shrinking numbers of younger workers, have only heightened the need to invest in the education of each of our young people.

As Marc Tucker, President of the National Center for Education and the Economy, points out, "Low-skill jobs are disappearing at increasing speed. And the higher skill jobs that are proliferating require the very qualities that good educators have always valued: broad and deep knowledge, a critical mind, the capacity for autonomous and thoughtful behavior, the ability to relate productively to others, the ability to think well and the capacity to learn what one needs to learn when one needs to learn it."

It is against this increasingly urgent backdrop that the Career and Technical Education (CTE) strategic visioning process has taken place. Commissioner Susan A. Gendron charged the CTE Advisory Committee, formed to conduct the visioning process, with developing a bold and transformational vision for the future of CTE in Maine. At the same time, Commissioner Gendron also charged all Department secondary education reform initiatives to achieve a new level of coordination and collaboration. In the days ahead, as the recommendations and action strategies contained in this report serve as a blueprint for reform, Maine must also work toward unprecedented coordination among state agencies, private non-profit organizations, secondary and post-secondary educational institutions, and business and industry.

In evidence throughout the following pages is the profound influence of Dr. Willard Daggett of the National Center for Leadership in Education. Dr. Daggett (or Bill as he is known in Maine) delivered a powerful keynote address at the outset of the three-day strategic visioning event in the summer of 2004, then remained for the entire three days to offer insights, critical feedback, and inspiration to the 80+ participants. His deep knowledge of the looming changes in technology, the workplace of the future, and promising educational reform strategies permitted the three days of planning to "look over the horizon" and to produce a result that has the potential to stimulate significant change.

Historical Perspective:

Prior to looking over the horizon, however, it is important to consider how vocational and technical education has evolved over the decades:

Federal legislation has played a major role in the shaping of vocational education. The Smith-Hughes Act of 1917 provided financial aid for vocational education in public secondary education. It was the first time that the Federal government gave states money for education. At that time vocational education was a method of education that helped students, who were hands-on learners, apply the academic concepts they were being taught. It was an integrated system at the turn of the century.

The basic elements of vocational education remained the same until 1963. It was then that the government made a major policy shift and established set-asides for underserved populations. Successive Federal Acts sought to make improvements in planning, program improvement, sex-role stereotyping, access and public/private sector cooperation.

The effect of the separate legislation was the separation of secondary vocational education programs from other education programs and the view that these programs were solely for disadvantaged youth.

In the 1990s there was another significant shift in Federal policy and that was the integration of academic and vocational-technical education in order to prepare a competitive and highly-skilled workforce. (That was the first Carl D. Perkins Vocational and Applied Technology Education Act-1990.) Perkins II focused on the integration of vocational-technical education with academics, articulation between secondary and postsecondary education and partnerships with business and labor.

Perkins III has built upon that foundation and offers somewhat more flexibility in exchange for a great deal more accountability. The basic intent of Congress was to assist the states in the promotion of continuous improvement of secondary and postsecondary vocational programs. The legislation also removes the funding of set-asides, but requires each state to establish a State Performance Accountability System and to assure continued services to populations previously served through the set-asides.

The Positive Core of CTE

In 1915 John Dewey wrote, "Effective education requires student-centered environments for educational purposes, and integration of the head and hand, of mind and action, and of academic and vocational." That is as true today as it was in 1915 and that duality is reflected in the Positive Core of CTE as well as in the Vision Areas of the strategic plan.

An especially important part of the CTE Visioning Conference in June was the participants' identification of the "positive core" of CTE – its qualities and attributes when CTE is at its best, the core strengths of CTE to build on in the future. The attributes, arranged under five categories, are as follows:

Applied Learning Model

- Integration of knowledge and application; translation into real life skills through hands-on, applied learning, reinforcing academic concepts
- Opportunities relevant to students' interests and aptitudes
- Natural links to academics and to business and industry

Industry/Career Pathway Standards

- Insures that technical skills and knowledge in programs are current and valid
- Universal acceptance of skill attainment and portability of credentials and credits
- Enables articulation with post-secondary programs

Student Engagement

- A voluntary alternative, accessible to all
- Student involvement in learning and teaching
- Love of learning, leading to lifelong learning

- Practicing work ethic in an adult environment
- Increased student confidence, self-esteem

A Committed Faculty

- Supported and inspired by its close ties to industry
- Passionate and knowledgeable
- Flexible – able to individualize learning for students

Relationships

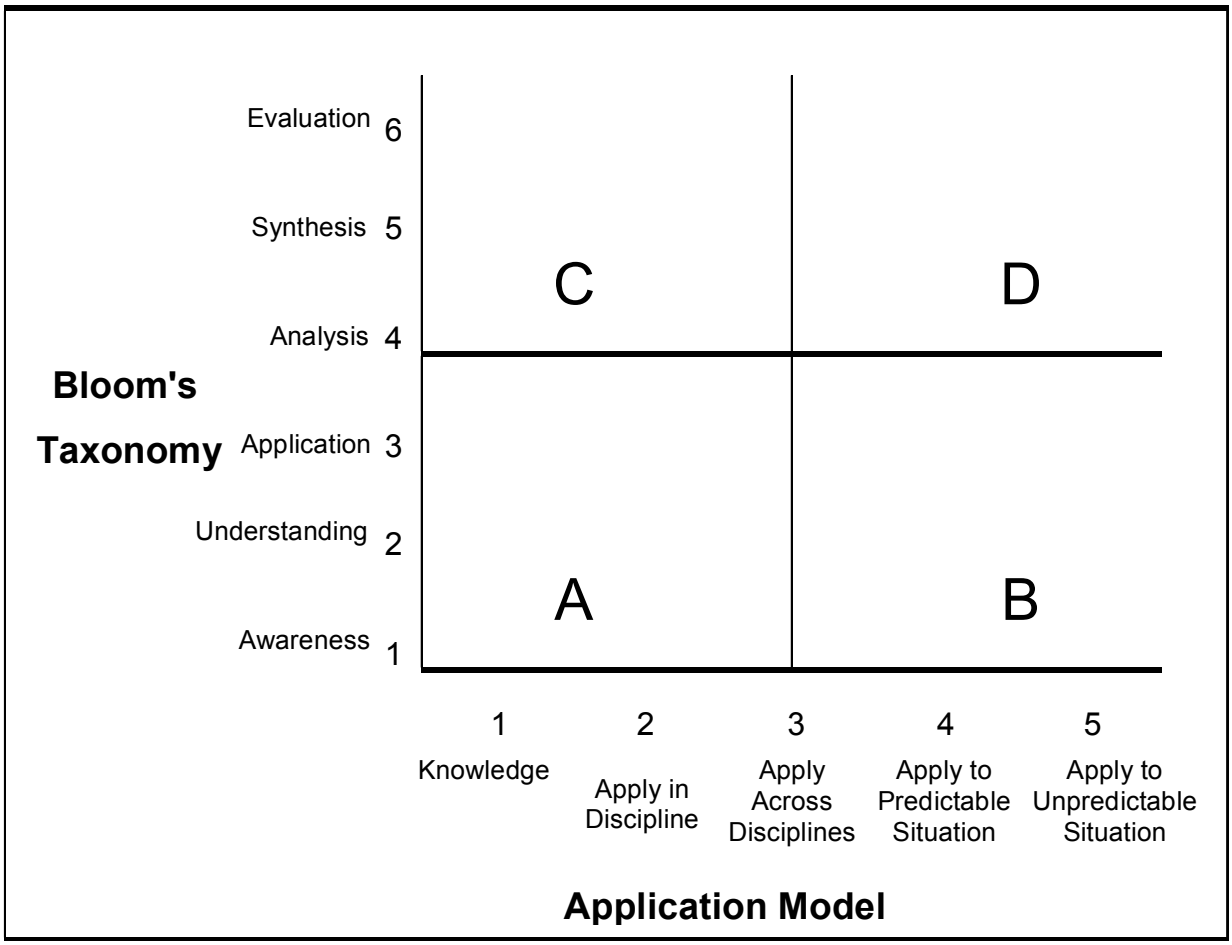
- Teacher-student relationships are human, personal
- Students feel valued
- Small class size

The Applied Learning Model, with a focus on technical skill attainment and related concepts, lies at the heart of CTE. Applied learning is what allows CTE to have a positive impact on students, as it helps to ensure student engagement in the learning process and a close relationship with CTE faculty members. Thus, applied learning informs this strategic plan in all its areas.

Also informing the plan are the characteristics of the thirty best high schools in the United States as identified in the *Bringing Successful Practices to Scale* initiative conducted by the Council of Chief State School Officers and the International Center for Leadership in Education. Those characteristics are:

- Focusing instruction around student's interests, learning styles, and aptitudes through a variety of small learning community approaches, most commonly academies
- Administrators and teachers share an unrelenting commitment to excellence for all students
- Emphasis on literacy across the curriculum
- A laser-like focus on data at the classroom level to make daily instructional decisions for individual students
- An extraordinary commitment of resources and attention to 9th grade students
- A rigorous and relevant 12th grade year
- High quality curriculum and instruction that focuses on rigor, relevance, relationships and reflective thought
- Solid and dedicated leadership

In order to prepare Maine's young people to live in a technological world and in order to develop a world-class workforce, schools must create a framework in which application skills as well as academic skills are strengthened. Below is the Application Model developed by the International Center for Leadership in Education. This model contains four quadrants, each with different hierarchies of acquisition and application of knowledge. Currently college preparatory programs operate in the "C" quadrant and CTE programs operate in the "B" quadrant. The goal for Maine is the preparation of **ALL** students to enable them to function in the "D" quadrant where they will be able to apply knowledge in unpredictable situations. In this report, that will be referred to as Quadrant D Learning.



The Statewide Educational Reform Context:

Participants in the three-day June conference discovered that they were creating their vision for the future of CTE in a complex, many-layered context that includes, among other things, a series of statewide educational initiatives currently underway:

- Chapter 127 implementation, including development of Local Assessment Systems as the basis for student high school graduation.
- Gender Equity Task Force
- Citizenship Education Task Force
- Compact for Higher Education
- Maine *Learning Results* Review process
- P-16 Task Force
- Task Force on Teacher Workload
- Great Maine Schools Project
- Laptop Initiative (MLTI)
- Governor's Economic Development Task Force

As the visioning continued, participants developed a strong consensus that the consolidation of statewide initiatives would be highly desirable, not only for congruency among them all but also for the greater coherence and seamlessness of Maine's educational system

itself. That desire became an assumption or premise of the CTE vision and an invitation to all educators – a sort of "Declaration of Interdependence" – and the participants expressed it in this way:

"We strongly recommend that the State of Maine incorporate its educational initiatives, K-16 and lifelong, in a student-centered, statewide, systems-based consolidated plan that is data-driven, accountable, and supported by all stakeholders of the community."

Moreover, the participants proposed a series of strategies in support of the recommendation which include convening representatives from the initiative groups to identify common themes centered around the latest research (e.g., Willard Daggett's findings), connecting or collapsing multiple initiatives wherever possible, and developing criteria to evaluate educational initiatives; e.g., data-driven/analyzed, student-centered, outcome-based/warranted (measurable), and collaborative.

Integration

Vision Area #2, Integration, is perhaps the most important, yet most difficult vision to achieve. All secondary learning institutions must support the integration of rigorous and relevant career, academic, interpersonal, technical and life skills with applied learning models in all aspects of the teaching and learning process, for all students, at all grade levels. Thus we ensure the greatest probability of success in our students' personal and professional lives.

The State Advisory Committee on Career and Technical Education and the Stakeholder Groups all agreed that there is an urgent need to build an integrated, collaborative, dynamic educational system that provides opportunities for all Maine students. Thus Maine will achieve the vision that each Maine student graduates from high school college ready and able to meet the challenges of a technology-based economy. The Committee also recognized that total integration is a long-term transformational process which has to start now.

Preparing for Implementation:

Among the themes that ran throughout Dr. Daggett's contributions to the CTE process were rigor, relevance, and personalization. In order to bring these core principles of standards-based reform to the educational experience for all students, the Maine Department of Education will encourage and support a new level of innovation—indeed transformation—in our secondary learning institutions. Yet the challenges we face are numerous and formidable. The transformational changes outlined in this report will not occur without the presence of certain contributing factors during the implementation phase:

- Leadership at all levels will need to become familiar with this report and translate the recommendations into concrete actions, including development of sufficient resources;

- The newly formed Secondary Collaborative within the Department will need to overcome the tendency to fragment along the lines of traditional programmatic silos and achieve coherence and efficiency;

- The Maine Association of Vocational Education Administrators (MAVEA) must assume a coordinating and catalytic role: stimulating innovation, identifying and

overcoming obstacles, and applying the recommendations of this report to widely divergent local situations;

- Program innovations currently underway, and pilot programs that emerge in the near future, must serve as models for further development. Both Maine DOE and MAVEA will need to ensure that obstacles are identified and addressed successfully; and

- New and creative solutions must be identified to the obstacles in coordination presented by the CTE regional centers, where students come from as many as 23 different sending schools.

- Creative solutions must be developed with regard to current physical structures to limit the impact of physical barriers on the creation of a truly integrated system. Models in other states or countries might serve to stimulate that creativity.

Without the above conditions the recommendations contained in this report may not come to life as envisioned during its development. As is true in any strategic planning process, implementation is key. Toward that end a number of important steps to assist effective implementation are being taken as the strategic visioning process comes to a conclusion:

- The CTE Advisory Committee that has guided the visioning process is being reconstituted, retaining many of its original members but adding representation from high school principals, guidance counselors, content area teachers, business and industry, and higher education, involvement of which will be crucial for effective implementation;

- The reconstituted Advisory Committee has created a framework to establish a core group of subcommittees charged with the further development of action steps, timeline benchmarks, resource needs, and evaluation indicators. These extended implementation supports will be monitored by the Advisory Committee as a whole to ensure progress is both documented and celebrated;

- DOE staff members have begun developing rich case studies and vignettes of innovative programs and practices to help guide the work in local CTE centers and programs. These models for innovation come from both state and national settings; the Maine examples are particularly exciting and potentially powerful since the resource people are close at hand; and

- The context for reform in Maine secondary education institutions will be the subject of a coordinated public information campaign among a group of stakeholder organizations including the Mitchell Institute, the Compact for Higher Education, the Coalition for Excellence in Education, Maine Public Broadcasting, Jobs for Maine's Graduates, and others. This statewide information will assist local educators in creating a more effective context for reform.

Further opportunities for leveraging reform will come about as the rules of the Department of Education pertaining to Career and Technical Education programs (Chapter 232) are revised in the near future. In addition, it appears that the reauthorization of the Perkins Act

will add federal support for the types of reform outlined in this report. As Maine develops its next statewide Perkins plan, key themes and strategies contained herein can be interwoven into the framework by which CTE programs obtain some of their financial support. As Maine works to coordinate all programs under the Secondary Collaborative, these additional funding opportunities can be utilized as well to focus applications around CTE and secondary school integration.

Maine is committed to building upon the federal framework and has already increased the rigor of its CTE offerings through the Curriculum Integration Project (CIP), a partnership between MAVEA and the Department of Education. The CIP initiative has increased both academic and technical rigor in Maine's CTE schools and has established state CTE standards that are correlated with national industry standards. These activities have resulted in increased enrollments in CTE programs and increased high school graduation rates for CTE students. Maine's CTE programs provide a strong base upon which to build and improve.

What became clear during the three days of visioning was the vast difference that exists across CTE programs in Maine. Implementation of this series of recommendations will by nature be a very situational undertaking, which is to say that some programs may be ready to consider planning for the creation of a magnet school or pilot career academy structure. Other programs will be at the other end of a continuum of options, ready only to strengthen literacy development planning with sending schools. The key, however, will be to orchestrate local planning processes based on this report, which must lead to the development of an action plan tailored to the needs of each setting.

The Organization of the Plan

The plan is organized around the five areas of the vision for CTE. Within each area, the plan includes these sections:

- A vision statement, in the present tense, following the convention that a vision is expressed as if it were already completed;

- System design elements, strategies, and action steps: the desired changes in the elements of the educational system, followed by strategies to pursue and specific action steps with dates for completion and the names, wherever possible, of groups and individuals who will initiate the action steps.

(Note that the "System Design Elements" differ from area to area, because within each area planners identified just those elements needing enhancement and change. The following is the comprehensive list of Design Elements from which the group worked: educational practice, program design, professional development, structure, students and student services, relationships, leadership, access and equity, and regulation and policy.)

The vision areas in this strategic plan mirror fairly close to the six "Core Principles for Secondary Education Practice in Maine" found in Maine's high school reform initiative, *Promising Futures, A Call to Improve Learning for Maine's Secondary Schools.* Working together—students, parents, business people, and educators at all levels—Maine can achieve its goal of bringing quality educational opportunities to each of its students in order to prepare them for the world that lies ahead.

Note 1: Participants in the June conference identified "Rigorous Expectations" as an essential aspect of CTE and wrote a vision statement about it, as follows:

> ***"All students are enrolled in programs based on high standards and expectations in a dynamic, responsive, and collaborative environment. These programs match the needs and interests of students, ensure their entrance into post-secondary education and high-skills employment, and enable them to play a positive role in their community."***

The CTE Advisory Committee, in its work during the summer, decided to incorporate "rigorous expectations" in the other vision areas, particularly #2, Integration. Committee members agreed that rigor and high expectations are important across the system and should infuse every area of the strategic plan.

Note 2:

This version of the report includes the work of the statewide CTE Visioning Conference in June 2004, and the refinement and development of that work by the statewide CTE Advisory Committee in six meetings over the course of the summer of 2004. It also includes the feedback from the September 15, 2004 meeting with stakeholders from the summer three-day event. Participants had the opportunity to review the plan, present feedback to it, and identify ways they could contribute to its implementation.

For full documentation of the work of the June conference, please refer to, "A Report on the CTE Visioning Conference: Building a Vision for the Future of Career and Technical Education in Maine."

Career and Technical Education in Maine

Mission Statement

The mission of Career and Technical Education, as part of the educational system in Maine, is to ensure that students acquire the high-quality technical skills that will prepare them for post-secondary education and entry into an ever-changing workplace and society and meet the rigorous academic standards of Maine's Learning Results.

Our Vision

1. The learning and development needs of students govern educational decisions.

2. All students benefit from an integrated system of academic and applied learning, based on rigorous expectations and standards, throughout their school experience.

3. All students and teachers place the highest priority on students' attainment of literacy at levels that will serve them throughout their lives as productive citizens and lifelong learners.

4. Rigorous data analysis drives educational decisions and resource allocation and contributes to continuous improvement.

5. A partnership between education (K-16), business and industry enriches both sectors and informs all students' educational experience.

Vision Areas, Design Elements, and Strategies

Vision Area: I. Student-centered Education

Design *A. Educational Practice*

Strategy 1: Develop comment format and implementation plan for PLPs
Strategy 2: Ensure CTE and HS teachers receive training
Strategy 3: Develop and implement protocols
Strategy 4: Promote these strategies

Strategy 1: CTE participates in development

Strategy 2: Enable Comprehensive Guidance Services & EPS

Strategy 1: Train schools in these models

Design *B. Leadership*

Strategy 1: Create statewide campaign

Strategy 2: Connect with Learn and Serve

Strategy 3: Identify best practices models and develop grants
Strategy 4: Disseminate best practices as in Promising Futures
Strategy 5: Identify incentives to achieve student inclusion
Strategy 6: Promote innovation and student involvement

Strategy 7: Enhance non-traditional enrollment

Design *C. Professional Development*

Strategy 1: Establish training program in instructional strategies.
Strategy 2: ID and promote best practices/models

Design *D. Regulation and Policy*

Strategy 1: Promote youth inclusion policies

Vision Area: II. Integration

Design *A. Educational Practice*

Strategy 1: Promote integration with local high school reform efforts

Strategy 2: Engage academic teachers to work with CTE teachers

Design *B. Program Design*

Strategy 1: Develop core CTE program curricula with career interests, technical content, and academics.
Strategy 2: Clarify and enable direction
Strategy 3: Identify, adapt, or develop integrated curricula

Strategy 4: Clarify the role and extent of academics in CTE programs

Strategy 5: Explore, ID, and develop various models
Strategy 6: Enhance CTE integration
Strategy 7: Consider and implement education models

Design *C. Leadership*

Strategy 1: Promote the need for change and integration

Strategy 2: Ensure integration with MLR general work and revisioning process

Strategy 3: Develop incentive grant programs to encourage integration

Design *D. Structure*

Strategy 1: Charge new group to ID, evaluate, recommend models
Strategy 2: Establish common scheduling and professional development activities among all schools, as well as collaborative curriculum and assessment development

Strategy 3: Enhance SISME to include student performance data on literacy

Strategy 4: Ensure EPS model supports integration

Design *E. Relationships*

Strategy 1: Promote CTE/HS integrated vision and intentions with major stakeholders

Strategy 2: Engage CISE, Great Maine Schools, etc to achieve integration
Strategy 3: Enhance integration in DOE

Strategy 4: Expand core academic representation on CTE advisory committee

Design *F. Access and Equity*

Strategy 1: Ensure effective and frequent articulation, co/dual enrollment

Design *G. Professional Development*

Strategy 1: Ensure alignment of vision/goals/realities with teacher prep programs

Strategy 2: Develop Literacy in the Content Area
Strategy 3: Encourage CTE teachers to expand knowledge of academic disciplines

Strategy 4: Determine in-service professional development program

Design *H. Regulation and Policy*

Strategy 1: Review and revise existing policies to facilitate integration

Vision Area: III. Literacy

Design *A. Educational Practice*

Strategy 1: Define "literacy" for the purposes of this plan.

Strategy 2: Emphasize content-specific literacy skills
Strategy 3: CTE and HS educators refine current course content and incorporate best literacy practices.
Strategy 4: Use student literacy assessment data to adjust instruction

Strategy 5: Establish a common literacy assessment

Design *B. Program Design*

Strategy 1: Ensure that CTE educators and business/industry reps participate in review of MLR
Strategy 2: Upon completion of MLR review, ensure that local curriculum and instruction is aligned

Design *C. Leadership*

Strategy 1: Encourage CTE advisory boards to include analysis of literacy achievement data and improvement of literacy development programming.
Strategy 2: Engage state-level leadership groups to promote vision and awareness of need for literacy programs.

Strategy 3: Develop rules and regulations that remove barriers inhibiting implementation of the vision.

Design *D. Students and Student Services*

Strategy 1: Student services staff engage in professional development on creating personalized educational programs and career counseling

Strategy 2: Student services staff establish working relationships with area business and industry reps to remain current in literacy demands of workplace

Design *E. Relationships*

Strategy 1: CTE and HS teachers identify and use common assessment tools to determine each student's literacy. Monitor Board of Education's regional diagnostic assessment programs.
Strategy 2: CTE and HS teachers develop processes to share assessment data and modify instruction based on findings.
Strategy 3: CTE and HS teachers engage in common/shared professional development, Promising Futures,

Strategy 4: CTE Cooperative and program advisory boards are educated about literacy in the technical programs and local and statewide initiatives

Strategy 5: CTE cooperative and program advisory boards understand that effective literacy instruction is a component of supervision and evaluation.

Design *F. Professional Development*

Strategy 1: MAVEA identifies literacy development as a high priority for all CTE centers in ALL regions of Maine.
Strategy 2: Use effective program delivery options to provide professional development in literacy

Design *G. Structure*

Strategy 1: Consider staffing implications of emphasis on literacy

Vision Area: IV. Data Analysis

Design *A. Educational Practices*

Strategy 1: Based on research data, enhance instruction to reflect students' individual needs.

Design *B. Program Design*

Strategy 1: Establish rigorous program benchmarks

Strategy 2: Use student success as a measure of program efficacy.

Strategy 3: Review course offerings annually.

Design *C. Leadership*

Strategy 1: Establish policies that encourage innovation and flexibility

Design *D. Relationships*

Strategy 1: Enhance MEDMS to incorporate data analysis among education partners

Strategy 2: Ensure that data collected can allow continuity, K-16

Design *E. Professional Development*

Strategy 1: Align professional development curricula

Strategy 2: Provide ongoing staff development in data collection & analysis

Vision Area: V. Partnership

Design *A. Leadership*

Strategy 1: Develop a marketing/information-sharing plan

Strategy 2: Expand local program advisory committees

Design *B. Structure*

Strategy 1: Establish a fast-track approval for CTE programs
Strategy 2: Make regulatory changes

Strategy 3: Develop more cross-representation

Strategy 4: Develop training opportunities

Design *C. Relationships*

Strategy 1: Ensure the involvement of business & industrial leaders

Strategy 2: Ensure participation of business & industry

Design *D. Professional Development*

Strategy 1: Develop training programs and activities

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GLOSSARY

- ATM—Asynchronous Transfer Mode
- CAR—Consolidated Annual Report
- CCD—Center for Career Development
- CCQUIMS—Comprehensive Continuous Quality Improvement Monitoring System
- CIP—Curriculum Integration Project
- CTE—Career and Technical Education
- CIA—curriculum, instruction and assessment
- CISE—Center for Inquiry in Secondary Education
- CTESOs—Career and Technical Education Student Organizations
- DACUM—Developing a Curriculum
- DECA—student organization for Marketing Education students
- DOE and MDOE—Maine Department of Education
- EPS—Essential Programs and Services
- FFA—student organization for agriculture and natural resources students
- HOSA—Health Occupations Students of America
- KIDS Consortium—Kids Involved Doing Service
- LAS—Local Assessment System
- Maine LEAD—Maine Education Leadership Consortium
- MAVEA—Maine Association of Vocational Education Administrators
- MEA—Maine Education Association
- MEDMS—Maine Education Data Management System
- MIS—Management Information System
- MLR—Maine Learning Results
- MPA—Maine Principals Association
- MSMA—Maine School Management Association
- MSSMA—Maine School Superintendents Association
- NEASC—New England Association of Schools and Colleges
- PAC—Program Advisory Committee
- PLP—Personal Learning Plan
- SARS—State Assessment and Regional Services
- SBLT—School-Based Learning Team
- Skills USA—student organization for all CTE students
- SISME—Student Information System for Maine
- SRI—Scholastic Research Institute